

**REMARKS**

Favorable reconsideration of this application is respectfully requested in view of the claim amendments and following remarks.

**Status of Claims**

Claims 1, 4, 7, 17, 18, 20, 21, and 23 have been amended. Claims 1-23 are currently pending in the application, of which claims 1, 7, 17, and 23 are independent.

No new matter has been introduced by way of the claim amendments; entry thereof is therefore respectfully requested.

**Summary of the Office Action**

The present non-final Office Action withdraws the previous rejection mailed on September 19, 2008 in light of the Applicant's arguments submitted on December 10, 2008.

Claims 4 and 17 were objected to because of minor informalities.

Claims 17, 18 and 23 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication Serial No. 2004/0017775 to Omae et al. (herein after "Omae et al.").

Claims 19 and 21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of U.S. Patent No. 6,295,276 to Datta et al. (herein after "Datta et al.").

Claim 20 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of Datta et al. and further in view of U.S. Patent No. 7,010,611 to Wiryaman et al. (herein after "Wiryaman et al.").

Claim 22 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of U.S. Patent No. 5,473,599 to Li et al. (herein after “Li et al.”).

Claims 1, 4, 6, 7, and 13-16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over RFC 792 by J. Postel (herein after “Postel”) in view of Li et al.

Claims 2, 3, and 8-10 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Postel in view of Li et al. and further in view of RFC 1256 by S. Deering (herein after “Deering”).

Claims 5, 11, and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Postel in view of Li et al. and further in view of Wiryaman et al.

These rejections are respectfully traversed for at least the following reasons.

Claim Objections

Claims 4 and 17 were objected to because of minor informalities. Claim 4 has been amended to remove the duplicate comma.

The Office Action asserts that the “selection of the router” should be changed to “selection of the routers” in line 7 of claims 17 and 23. The Applicant respectfully disagrees with this objection because the terms “selection of the router” correspond accurately to the “automated selection of a router to respond to an ARP request” recited in line 2 of claims 17 and 23. Thus, it is respectfully submitted that claims 17 and 23 do not contain the asserted informalities.

The Examiner is therefore respectfully requested to withdraw the objection of claims 4, 17, and 23.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

Claims 17, 18 and 23 were rejected under 35 U.S.C. §102(e) as allegedly being anticipated by U.S. Patent Application Publication Serial No. 2004/0017775 to Omae et al. (herein after "Omae et al."). This rejection is respectfully traversed for at least the following reasons.

Independent claim 17, as amended, pertains to a method of load balancing between a plurality of routers, which includes, in a first router, receiving a packet from a requesting host for forwarding via a network, identifying a current load of the first router, determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router, and transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the

packet is to be routed by another one of the plurality of routers. The method also includes in the other ones of the plurality of routers, receiving the ARP request from the first router, performing the automated selection of the router to respond to the ARP request by applying an algorithm at each of the other ones of the plurality of routers to determine which single router is to respond to the ARP request; and sending an ARP reply from the selected router to the requesting host.

Support for the amendments to independent claim 17 may at least be found on page 4, lines 18-31 of the originally filed specification. That section of the specification discusses load balancing among a plurality of routers, which requires that the routers be able to identify loads being placed thereon.

In setting forth the rejection of independent claim 17, the Office Action asserts that paragraphs [0004]-[0006] of Omae et al. disclose each and every element claimed therein. Those cited sections of Omae et al. discuss how a conventional router operates when the router receives a packet having an unresolved media access control (MAC) address of a router to which the packet is to be routed. As also discussed therein, the router is considered to have an unresolved MAC address when the router does not hold a MAC address of a successive routing destination of the packet. Moreover, when an unresolved MAC address is encountered, Omae et al. discloses that the router broadcasts an address resolution protocol (ARP) to all of the nodes on a link. In response, one of the nodes on the link confirms that the router is the object of the ARP request and transmits to the router an ARP response packet having the MAC address of the selected router.

In Omae et al., therefore, the router is disclosed as broadcasting the ARP in response to encountering an unresolved MAC address and is thus not at all concerned with balancing

load between a plurality of routers. In one regard, therefore, Omae et al. fails to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claim 17.

Independent claim 23 recites features similar to those set forth in independent claim 17 and is therefore allowable over Omae et al. for reasons similar to those presented above. More particularly, for instance, Omae et al. fails to disclose that each of a plurality of routers includes means for identifying any current load of the plurality of routers and means for determining whether a packet is to be routed by a another one of the plurality of routers in response to the identified current load.

For at least the foregoing reasons, it is respectfully submitted that Omae et al. fails to disclose each and every element claimed in independent claims 17 and 23. The Examiner is therefore respectfully requested to withdrawal the rejection of independent claims 17 and 23 and the claims that depend therefrom and to allow all of these claims.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in *KSR International Co. v. Teleflex Inc.*, 550 U.S.398, 82 USPQ2d 1385 (2007):

“Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” Quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966).

As set forth in MPEP 2143.03, to ascertain the differences between the prior art and the claims at issue, “[a]ll claim limitations must be considered” because “all words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385. According to the Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in view of *KSR International Co. v. Teleflex Inc.*, Federal Register, Vol. 72, No. 195, 57526, 57529 (October 10, 2007), once the *Graham* factual inquiries are resolved, there must be a determination of whether the claimed invention would have been obvious to one of ordinary skill in the art based on any one of the following proper rationales:

(A) Combining prior art elements according to known methods to yield predictable results; (B) Simple substitution of one known element for another to obtain predictable results; (C) Use of known technique to improve similar devices (methods, or products) in the same way; (D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (E) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (F) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (G) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention. *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_\_, 82 USPQ2d 1385 (2007).

Furthermore, as set forth in *KSR International Co. v. Teleflex Inc.*, quoting from *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006), “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasonings with some rational underpinning to support the legal conclusion of obviousness.”

Therefore, if the above-identified criteria and rationales are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

**Claims 19 and 21**

Claims 19 and 21 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of U.S. Patent No. 6,295,276 to Datta et al. (herein after "Datta et al."). This rejection is respectfully traversed for at least the following reasons.

The Office Action indicates that Omae et al. fails to disclose that the algorithm determines the responding router using a round robin type selection process. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Datta et al. More particularly, the Office Action asserts that Datta et al. at column 15, lines 1-15 discloses an algorithm that determines a responding router using a round robin type selection process. *Office Action*, page 5, lines 5-7. That cited section of Datta et al. pertains to a round-robin controller 202 that is distinct from the routers. As such, Datta et al. fails to disclose that the algorithm is performed in any of the routers, but instead, discloses that the round-robin selection is performed by the round-robin controller 202.

Thus, the Office Action has not and cannot reasonably rely upon Datta et al. as making up for the deficiencies in Omae et al. discussed above. Thus, even assuming for the sake of argument that the modification of Omae et al. based upon the disclosure contained in Datta et al. proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claim 17, upon which claims 19 and 21 depends. More particularly, for instance, the proposed combination of Omae et al. and Datta et al. would still fail to disclose that a current load of the router that receives the packet is

identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claim 17.

For at least the foregoing reasons, it is respectfully submitted that Omae et al. and Datta et al. considered individually or in combination, fails to disclose each and every feature claimed in independent claim 17 of the present invention. The Office Action has thus failed to establish that depending claims 19 and 21 are *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of claims 19 and 21 and to allow these claims.

#### **Claim 20**

Claim 20 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of Datta et al. and further in view of U.S. Patent No. 7,010,611 to Wiryaman et al. (herein after "Wiryaman et al."). This rejection is respectfully traversed for at least the following reasons.

The Office Action indicates that the proposed combination of Omae et al. and Datta et al. fails to disclose that a hash function is a function of the source and destination IP addresses. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Wiryaman et al. More particularly, the Office Action asserts that Wiryaman et al. at column 3, lines 20-30 discloses a hash function that is a function of the source and destination IP addresses. *Office Action*, page 5, lines 16-18. Thus, the Office Action has not and cannot reasonably rely upon Wiryaman et al. as making up for the deficiencies in Omae et al. and Datta et al. discussed above. Thus, even assuming for the sake of argument that the modification of Omae et al. and Datta et al. based upon the



disclosure contained in Wiryaman et al. proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claim 17, upon which claim 20 depends. More particularly, for instance, the proposed combination of Omae et al., Datta et al., and Wiryaman et al. would still fail to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claim 17.

For at least the foregoing reasons, it is respectfully submitted that Omae et al., Datta et al., and Wiryaman et al. considered individually or in combination, fails to disclose each and every feature claimed in independent claim 17 of the present invention. The Office Action has thus failed to establish that depending claim 20 is *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of claim 20 and to allow this claim.

#### **Claim 22**

Claim 22 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Omae et al. in view of U.S. Patent No. 5,473,599 to Li et al. (herein after "Li et al."). This rejection is respectfully traversed for at least the following reasons.

The Office Action indicates that Omae et al. al. fails to disclose that the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Li et al. More particularly, the Office Action asserts that Li et al. at

column 7, lines 45-67 and column 9, lines 1-42 disclose a load-based algorithm comprising communication of load levels amongst a plurality of routers. *Office Action*, page 6, lines 7-9. Thus, the Office Action has not and cannot reasonably rely upon Li et al. as making up for the deficiencies in Omae et al. discussed above. Thus, even assuming for the sake of argument that the modification of Omae et al. based upon the disclosure contained in Li et al. proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claim 17, upon which claim 22 depends. More particularly, for instance, the proposed combination of Omae et al. and Li et al. would still fail to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claim 17.

For at least the foregoing reasons, it is respectfully submitted that Omae et al. and Li et al. considered individually or in combination, fails to disclose each and every feature claimed in independent claim 17 of the present invention. The Office Action has thus failed to establish that depending claim 22 is *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of claim 22 and to allow this claim.

#### **Claims 1, 4, 6, 7, and 13-16**

Claims 1, 4, 6, 7, and 13-16 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over RFC 792 by J. Postel (herein after "Postel") in view of Li et al. This rejection is respectfully traversed for at least the following reasons.

Independent claim 1, as amended, pertains to a method of load balancing between a plurality of routers by automated resetting of gateways, which includes receiving a packet at a first router from a source host to be forwarded to a destination host, identifying a current load on the first router, determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router, applying an algorithm at the first router to select a second router to be a next gateway for the source host for packets destined to the destination host in response to a determination that the packet is to be routed by another one of the plurality of routers; and sending an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host.

Support for the amendments to independent claim 1 may at least be found on page 4, lines 18-31 of the originally filed specification. That section of the specification discusses load balancing among a plurality of routers, which requires that the routers be able to identify loads being placed thereon.

In setting forth the rejection of independent claim 1, the Office Action initially relies upon the disclosure contained on page 13 of Postel. That cited section of Postel discloses that a gateway checks its routing table and obtains the address of the next gateway on the route to a datagram's internet destination network. That section also discusses that a redirect message that advises the host to send its traffic for the network directly to the second gateway because this is a shorter path to the destination.

Postel thus discloses that a redirect message for another gateway is sent to the host based upon the shortest path through the network from the host to the destination and is thus not at all concerned with balancing load between a plurality of routers. In one regard,

therefore, Postel fails to disclose that a current load of the first router, which receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claim 1. Furthermore, Postel fails to disclose that an algorithm is applied at the first router to select a second router to be a next gateway for the source host for packets destined to the destination host in response to a determination that the packet is to be routed by another one of the plurality of routers and that an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host, as claimed in independent claim 1.

The Office Action indicates that Postel fails to disclose that the host resets the default gateway of the source host to be the second router. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Li et al. More particularly, the Office Action asserts that Li et al. at column 16, lines 10-25 discloses this feature.

Thus, the Office Action has not and cannot reasonably rely upon Li et al. as making up for the deficiencies in Postel discussed above. Thus, even assuming for the sake of argument that the modification of Postel based upon the disclosure contained in Li et al. proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claim 1. More particularly, for instance, the proposed combination of Postel and Li et al. would still fail to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by

another router is made based upon the identified current load, as claimed in independent claim 1.

Independent claim 7 recites features similar to those set forth in independent claim 1 and is therefore allowable over Postel in view of Li et al. for reasons similar to those presented above. More particularly, for instance, the proposed combination of Postel and Li et al. fails to disclose an apparatus for routing packets having a selection module configured to identify a current load on the first router, determine whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router, apply an algorithm to select another router to be a next gateway of the source host for packets destined to the destination host; and a transmission module configured to send an ICMP redirect message to the source host to reset a current gateway of the source host to be said other router for packets destined to the destination host.

For at least the foregoing reasons, it is respectfully submitted that Postel and Li et al. considered individually or in combination, fails to disclose each and every feature claimed in independent claims 1 and 7 of the present invention. The Office Action has thus failed to establish that independent claims 1 and 7 are *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of independent claims 1 and 7 and the claims that depend therefrom and to allow these claims.

**Claims 2, 3, and 8-10**

Claims 2, 3, and 8-10 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Postel in view of Li et al. and further in view of RFC 1256 by S. Deering

(herein after "Deering"). This rejection is respectfully traversed for at least the following reasons.

The Office Action indicates that Postel in view of Li et al. fails to disclose the features of depending claims 2, 3, and 8-10. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Deering. More particularly, the Office Action asserts that Deering at page 10 disclose these features. The Office Action, however, has not and cannot reasonably rely upon Deering as making up for the deficiencies in Postel and Li et al. discussed above. Thus, even assuming for the sake of argument that the modification of Postel and Li et al. based upon the disclosure contained in Deering proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claims 1 and 7. More particularly, for instance, the proposed combination of Postel, Li et al., and Deering would still fail to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claims 1 and 7.

For at least the foregoing reasons, it is respectfully submitted that Postel, Li et al., and Deering considered individually or in combination, fails to disclose each and every feature claimed in independent claims 1 and 7 of the present invention, upon which claims 2, 3, and 8-10 respectively depend. The Office Action has thus failed to establish that claims 2, 3, and 8-10 are *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of independent claims 2, 3, and 8-10 and to allow these claims.

**Claims 5, 11, and 12**

Claims 5, 11, and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Postel in view of Li et al. and further in view of Wiryaman et al. This rejection is respectfully traversed for at least the following reasons.

The Office Action indicates that Postel in view of Li et al. fails to disclose the features of depending claims 5, 11, and 12. In an effort to make up for this deficiency, the Office Action relies upon the disclosure contained in Wiryman et al. More particularly, the Office Action asserts that Wiryman et al. at column 3, lines 20-30 disclose these features. The Office Action, however, has not and cannot reasonably rely upon Wiryman et al. as making up for the deficiencies in Postel and Li et al. discussed above. Thus, even assuming for the sake of argument that the modification of Postel and Li et al. based upon the disclosure contained in Wiryman et al. proposed in the Office Action would somehow have been considered to be obvious to one of ordinary skill in the art, the proposed modification still fails to yield the claimed invention as set forth in independent claims 1 and 7. More particularly, for instance, the proposed combination of Postel, Li et al., and Wiryaman et al. would still fail to disclose that a current load of the router that receives the packet is identified and that a determination of whether the packet is to be routed by another router is made based upon the identified current load, as claimed in independent claims 1 and 7.

For at least the foregoing reasons, it is respectfully submitted that Postel, Li et al., and Wiryman et al. considered individually or in combination, fails to disclose each and every feature claimed in independent claims 1 and 7 of the present invention, upon which claims 5, 11, and 12 respectively depend. The Office Action has thus failed to establish that claims 5,

**PATENT**

Atty Docket No.: 200313908-1  
App. Ser. No.: 10/633,444

11, and 12 are *prima facie* obvious in light of these documents. The Examiner is thus respectfully requested to withdraw the rejection of independent claims 5, 11, and 12 and to allow these claims.

Conclusion

In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited. Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below.

Please grant any required extensions of time and charge any fees due in connection with this request to Deposit Account No. 08-2025.

Respectfully submitted,

Dated: July 6, 2009

By



Timothy B. Kang  
Registration No. 46,423  
(703) 652-3817

MANNAVA & KANG, P.C.  
11240 Waples Mill Road  
Suite 300  
Fairfax, VA 22030  
(703) 865-5150 (facsimile)